TESTING
DoD 5000/Mil-Std 498

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DSDC-BQ

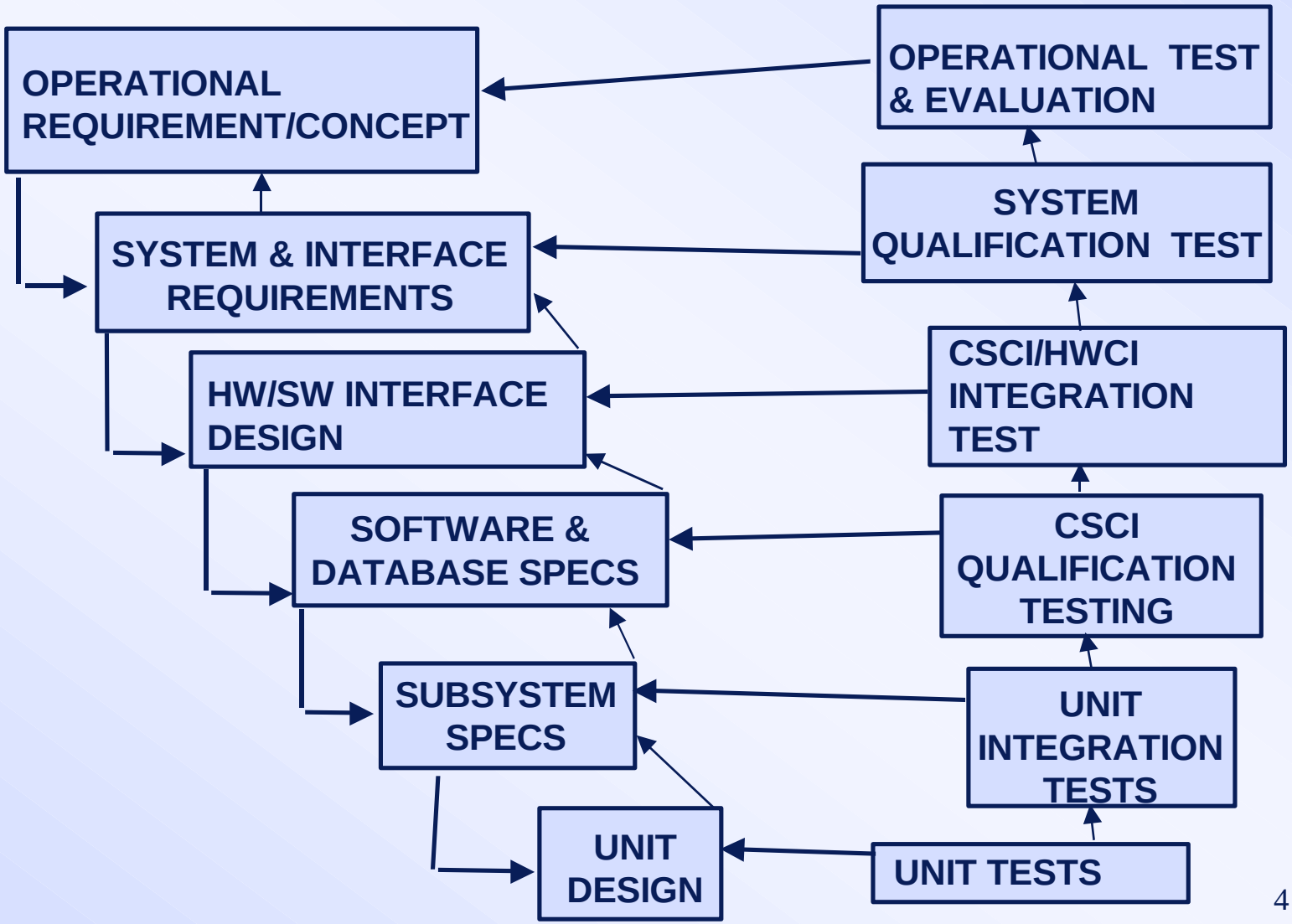
OVERVIEW

- Purpose Of Testing
- DLA Vs Mil Std 498 Test Terminology
- DoD 5000 Overview
- Mil Std 498 Overview
- DLA Software Maintenance Process
- Test Readiness Review

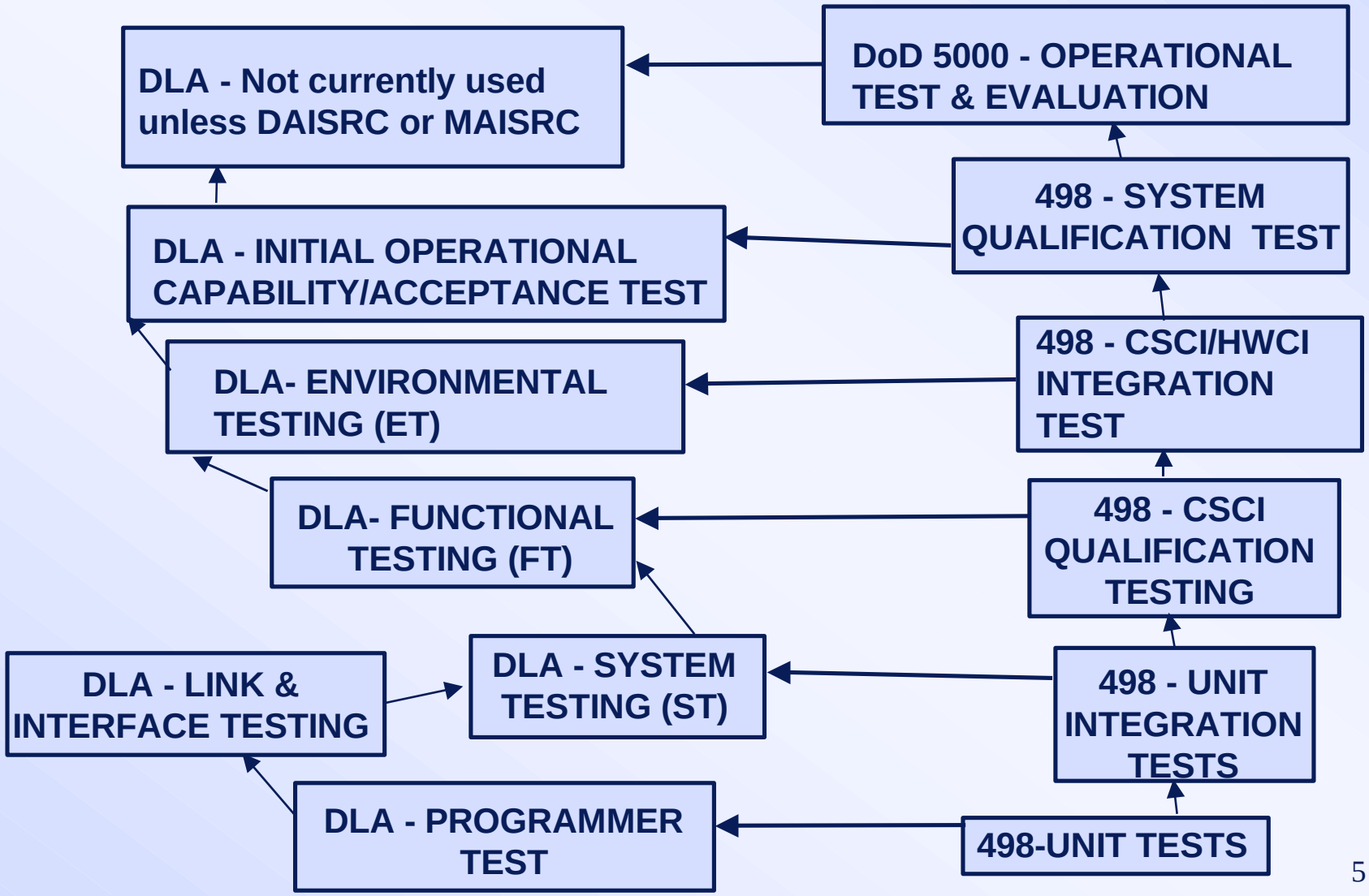
PURPOSE OF TESTING

- Risk Reduction
- Ensure Quality Product is Delivered
- Ensure Requirements are Met
- Support Decision Making
- Readiness for Use

Requirements Generation Traceability through Testing



DLA Vs MIL-STD-498 Test Terminology



HEADQUARTERS OVERSIGHT

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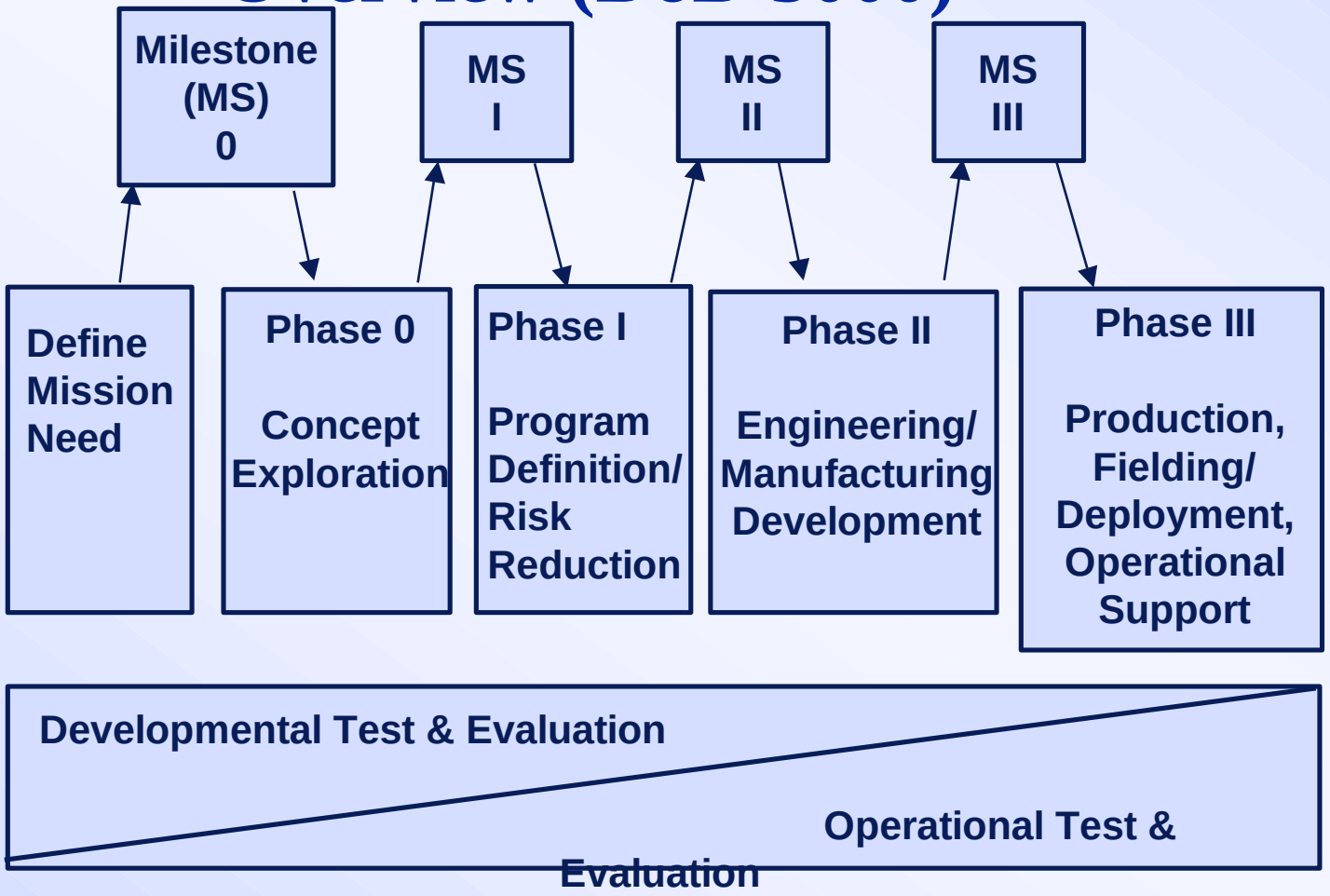
- DoD 5000 applies to:
  - MAISRC - Major Automated Information System Review Council (Assistant Secretary of Defense)
  - DAISRC - DLA Automated Information System Review Council (DLA HQ)
- Includes Formal Reviews and Milestone Approval Decisions

Acquisition Process Overview (DoD 5000)



DOD 5000 OVERVIEW

- Test Planning Starts at Phase 0
- Early Testing to help identify Risks
- Optimize Testing to reduce Risk
- Emphasizes Integrated Product Teams(IPT)
- DoD 5000 establishes a tailorable "general model" if PM provides adequate information for decision making

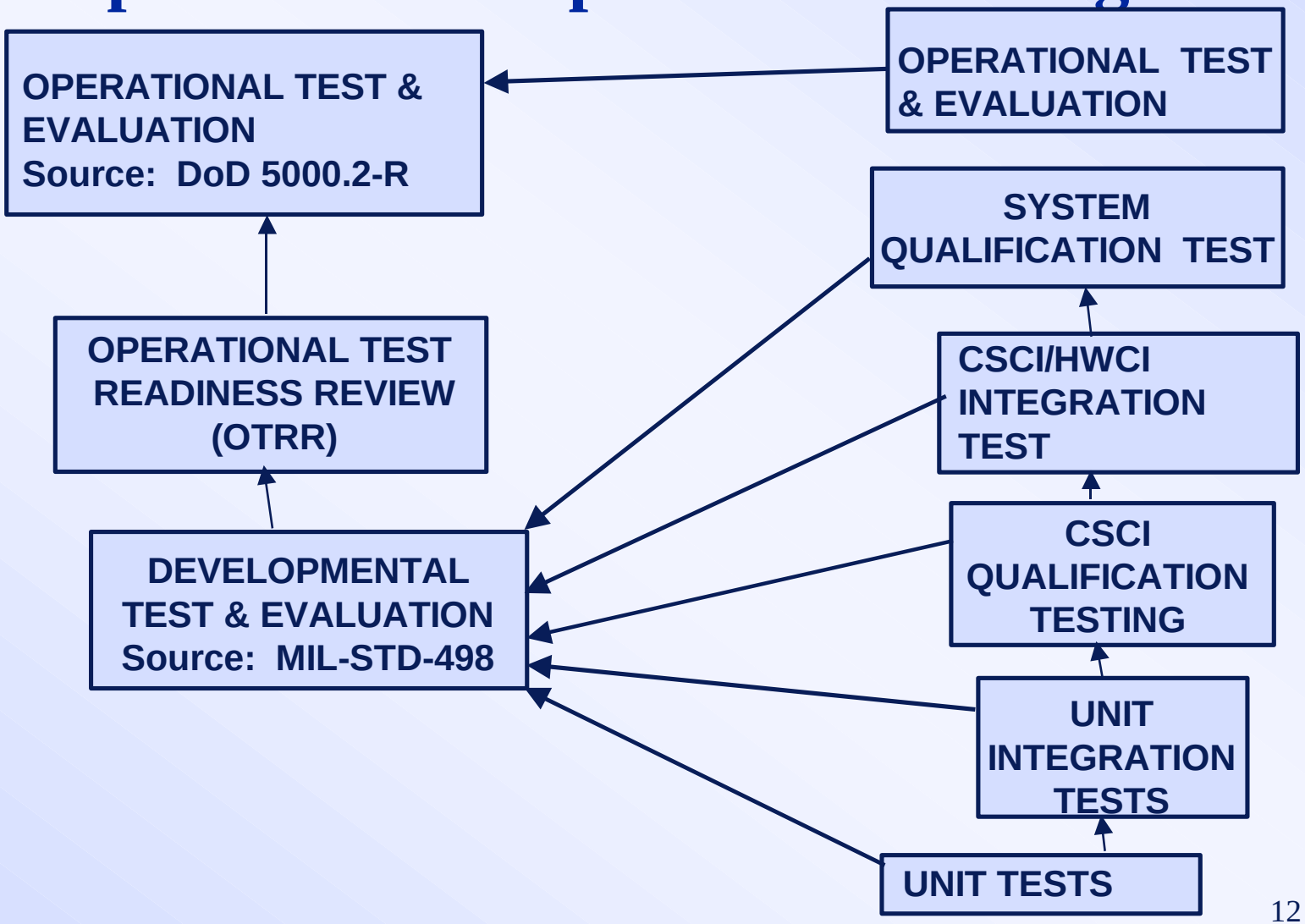
DOD 5000 OVERVIEW
Continued

- Test & Evaluation Master Plan (TEMP) focus:
  - Overall Program Testing Structure
  - Major Elements
  - Test and Evaluation Objectives
  - Timely Availability of Test Resources
- Tailorable to recognize commercial testing and experience for non-developmental items

DOD 5000 OVERVIEW
Continued

- Test & Evaluation Working Group (TEWG) focus:
  - Prepare TEMP as a team
  - Coordinate with DLA HQ and OSD (Members of TEWG)
  - Test and Evaluation Issues resolved in TEWG
  - Elevate issues as required

Developmental and Operational Testing



DOD 5000 OVERVIEW
Continued

- Developmental Testing focus:
  - Certify ready for Operational Testing
  - Software Maturity Achieved
  - Performance Criteria
  - Risk Management
  - Traceability to Requirements
  - Mission Impact Analysis for unmet metrics

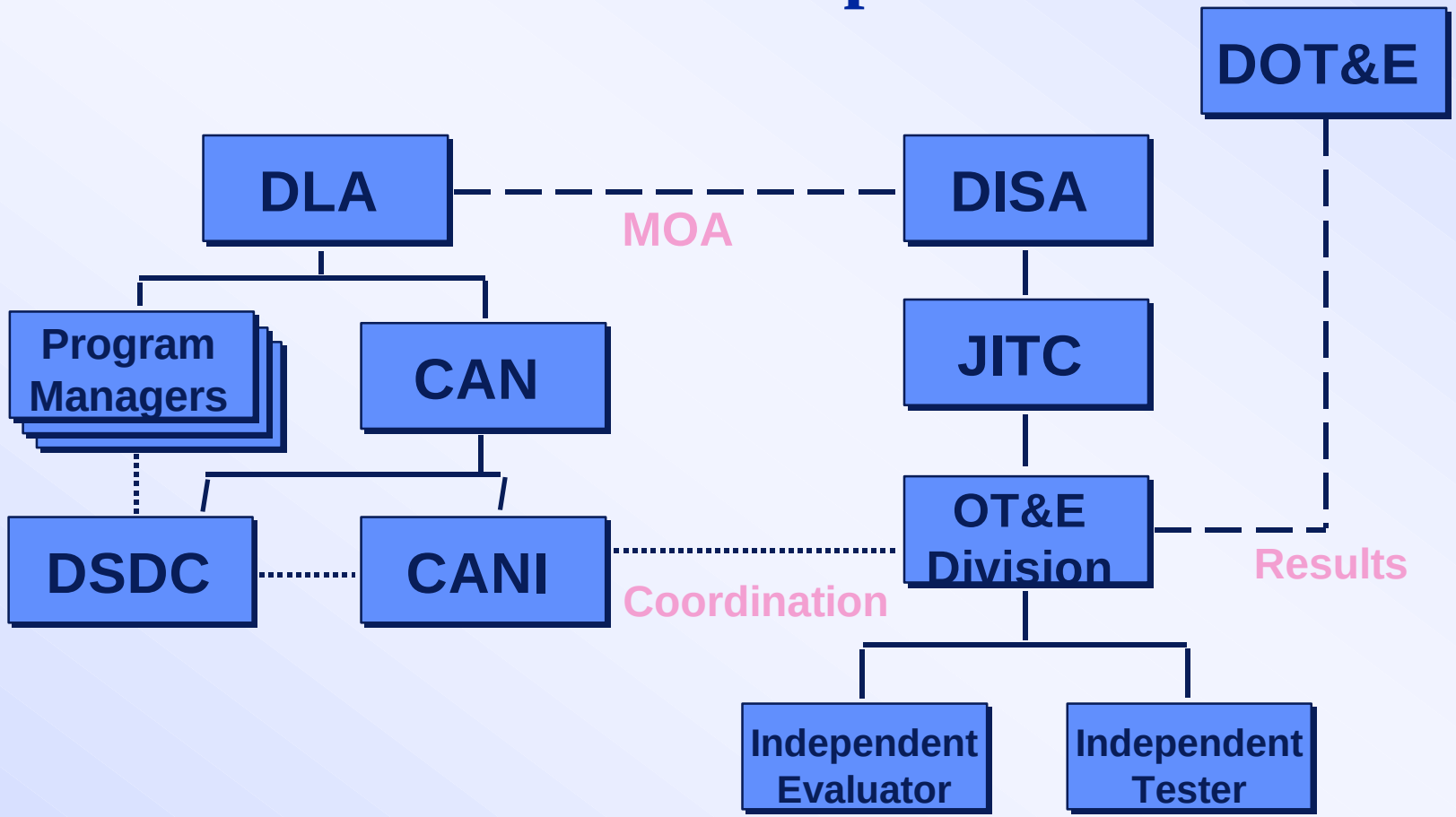
DOD 5000 OVERVIEW
Continued

- Operational Test Readiness Review involves:
  - DLA-CAN
  - Program Manager
  - Developmental Tester
  - Operational Test Site and Users
  - Operational Tester
  - Security

DOD 5000 OVERVIEW
Continued

- Operational Testing focus:
  - Determine Operational Effectiveness
  - Determine Operational Suitability
  - Realistic conditions (e.g. wartime, stress loads)
  - Training and Logistics Capabilities
  - Reliability, Availability, and Maintainability
  - Mission Impact Analysis for unmet metrics

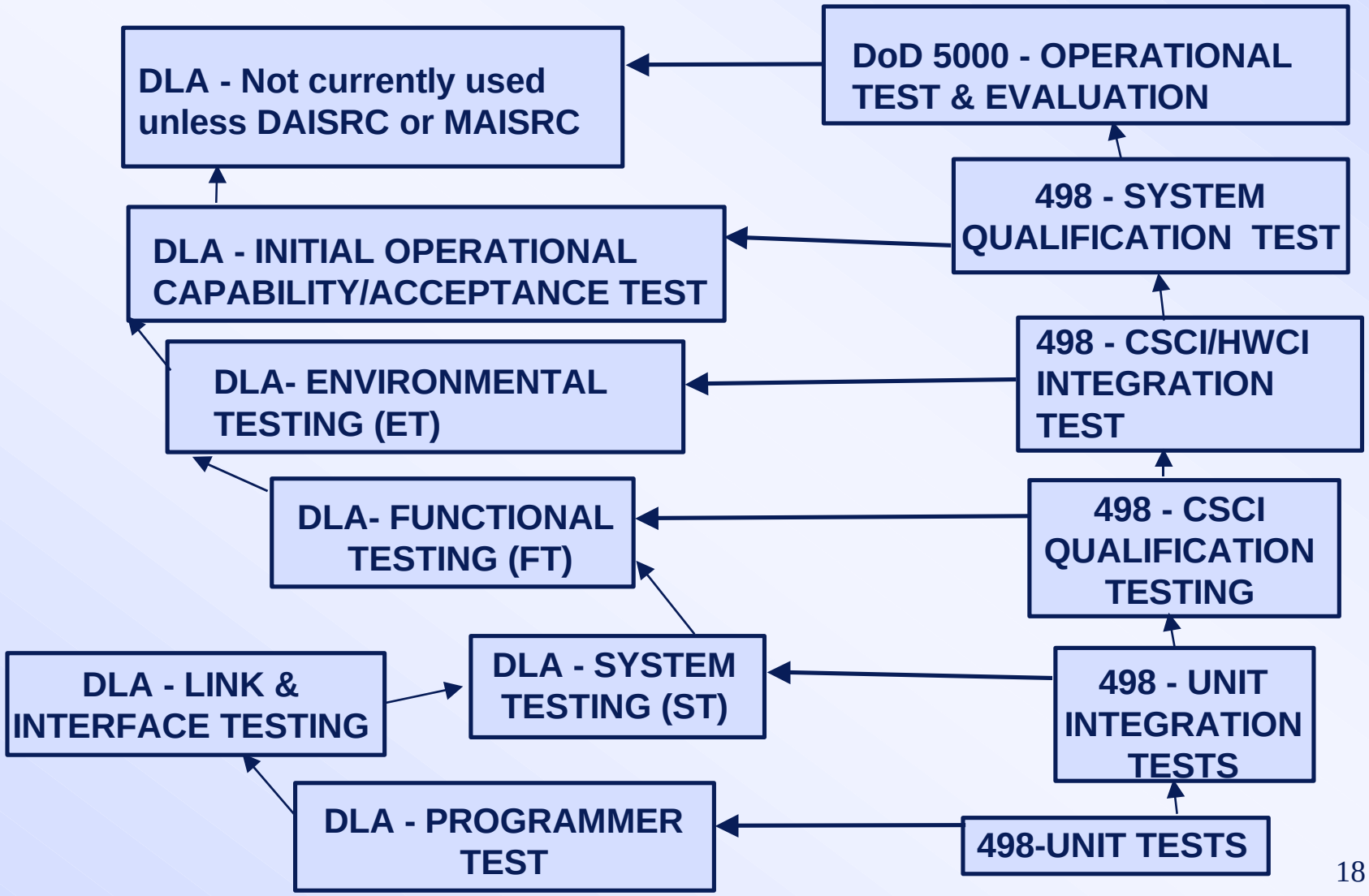
DLA Operational Test Relationships



Mil-Std 498 Overview

- Mil. Std 498
  - Unit Test
  - Unit Integration Testing
  - CSCI Qualification Testing
  - CSCI / HWCI Integration testing
  - System Qualification Testing
- DLA
  - Unit / Programmer Test
  - Link / Interface Test
  - System Test (ST)
  - Functional Test (FT)
  - Environmental Test (ET)
  - Initial Operational Capability (IOC) Test

DLA Vs MIL-STD-498 Test Terminology



MIL-STD 498 OVERVIEW

- Unit Testing
  - Developer runs test
  - Test by software unit
  - Test programs and database
  - Formal test report not normally required

MIL-STD 498 OVERVIEW
Continued

- Unit Integration Testing (DLA- System Test)
  - Developer runs test
  - Test with two or more software units
  - Test programs and database
  - Internal “dry run” CSCI Qualification testing
  - Results recorded in Software Development File

MIL-STD 498 OVERVIEW
Continued

- CSCI Qualification Testing (DLA- Functional Test)
  - Developer runs test (but not the CSCI designer)
  - Customer (Acquirer) observed or witnessed
  - Test with CSCI (satisfies an end use function)
  - Test programs and database
  - Test on target computer or approved configuration
  - Results recorded in a Software Test Report

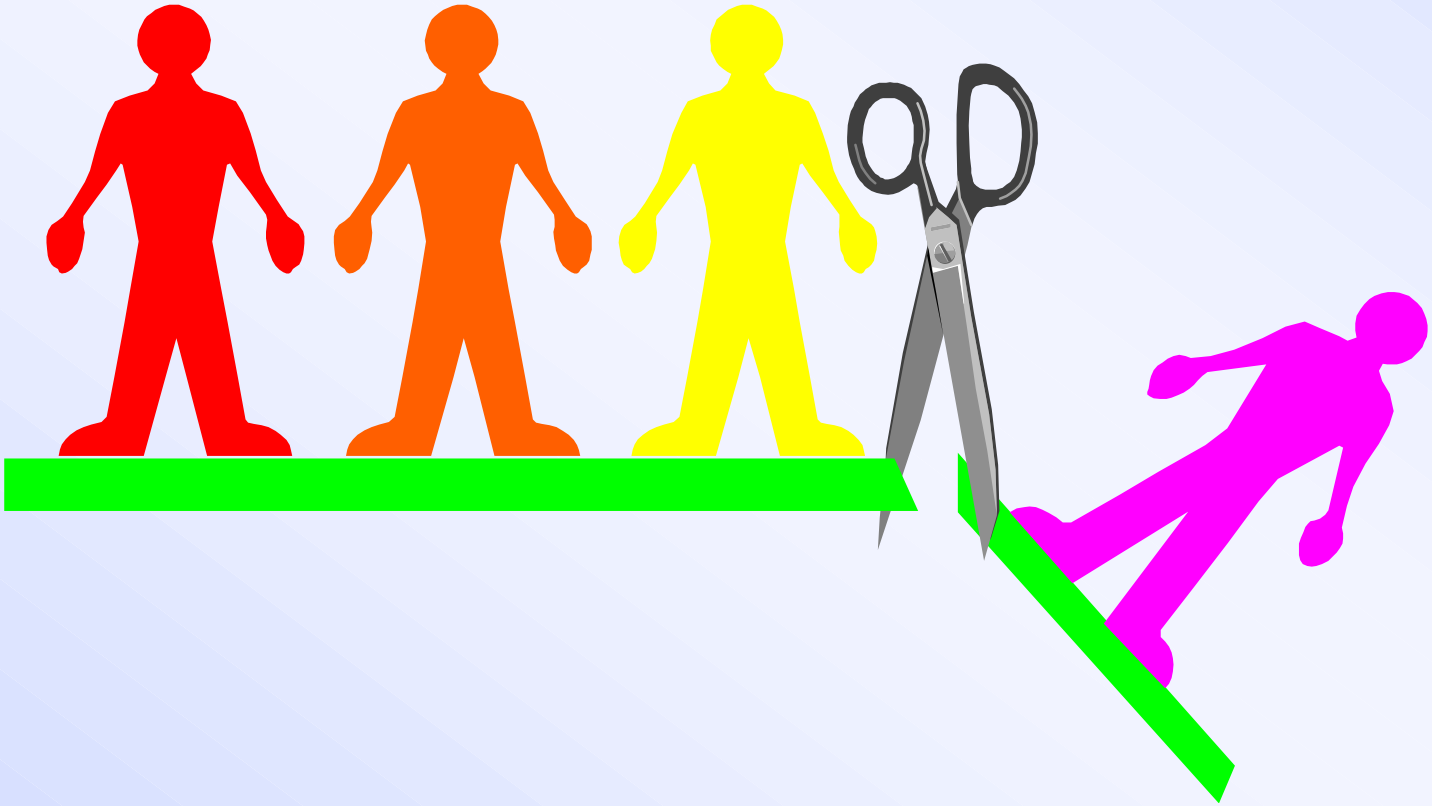
MIL-STD 498 OVERVIEW
Continued

- CSCI/HWCI Integration Testing (DLA-Environmental Test)
  - Developer participates in test
  - Test with two or more CSCI/HWCIs
  - Test programs and database
  - Internal “dry run” System Qualification testing
  - Results recorded in a Software Test Report

MIL-STD 498 OVERVIEW
Continued

- System Qualification Testing (DLA- IOC)
  - Developer does not run test (but participates)
  - Customer (Acquirer) observed or witnessed
  - Test with full system (Production Environment)
  - Test on production system or approved configuration
  - This may be the Acceptance Test if project is NOT MAISRC/DAISRC

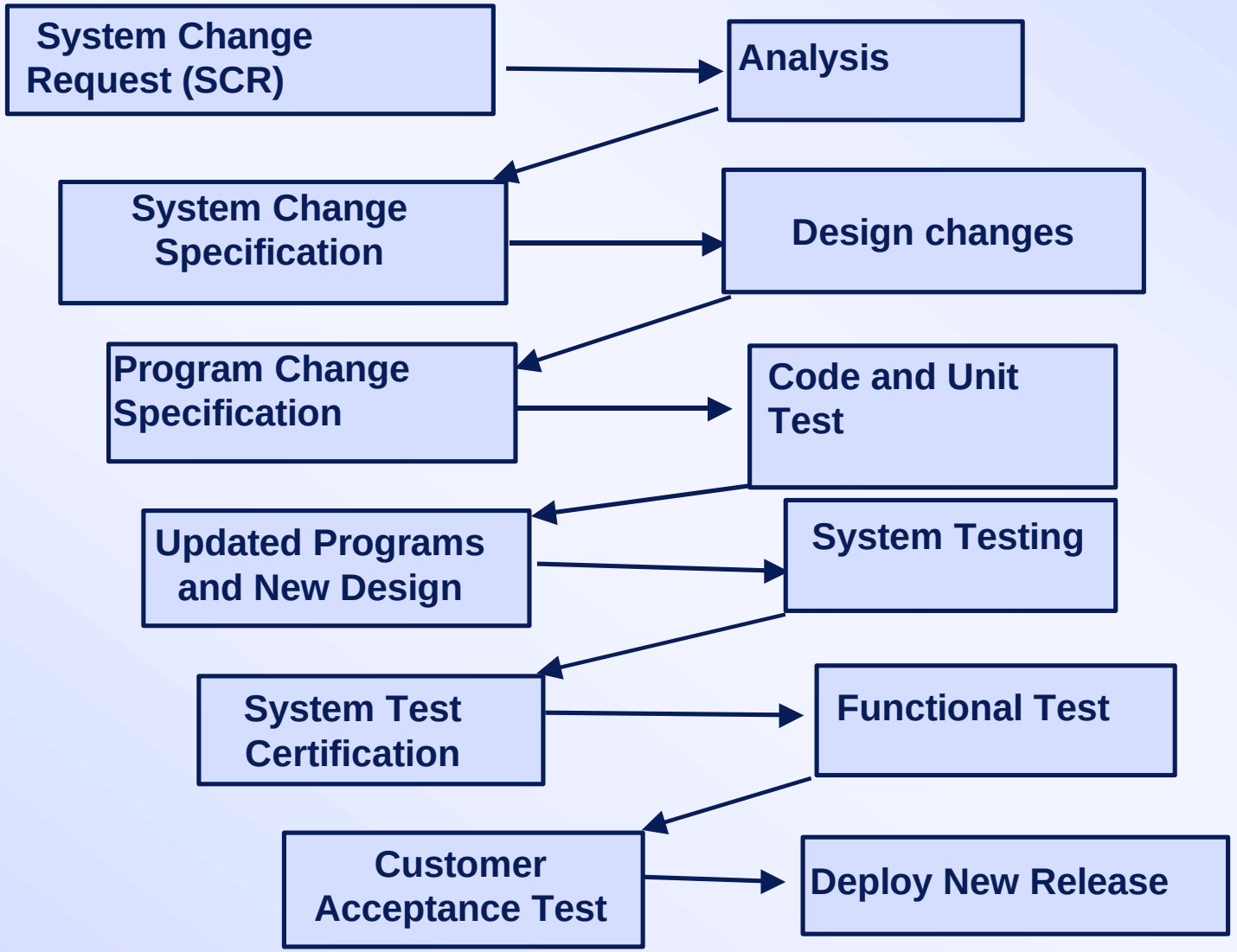
TAILOR 498



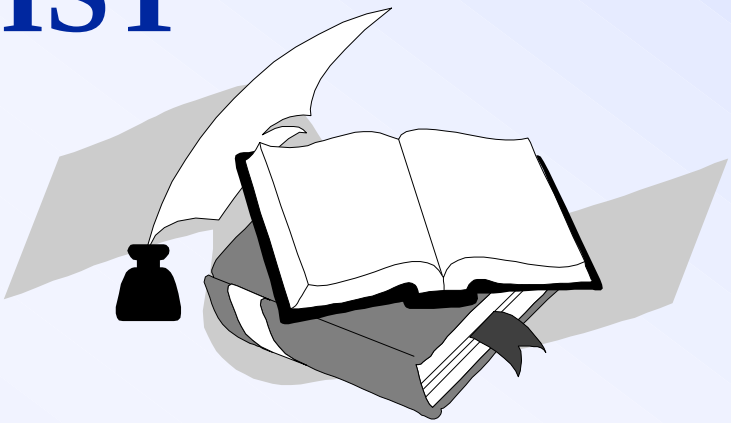
Current Methods and Terms

- SCR / AWR
- CHANGE SPECIFICATION
- CODE AND UNIT TEST
- SYSTEM TEST
- FUNCTIONAL TEST
- ENVIRONMENTAL TEST
- DEPLOY

Current DLA Software Maintenance Process



CSCI QUALIFICATION/ FUNCTIONAL TEST (Q/FT) READINESS CHECKLIST



Q/FT Readiness Review

- Are significant open issues unresolved?
- System Test Certified Complete?
- Software Test Plan and Software Test Description complete and current?
- Configuration Management controls in place?

Q/FT Readiness Review
Continued

- Users/Testers Trained and Ready?
- Test Environment and System Configuration Ready?
- Known differences between Q/FT and Production environments documented along with potential impacts?

Q/FT Readiness Review
Continued

- Known limitations documented such as: limited data sample or simulated interfaces?
- Potential impact from other testing, development, and maintenance activities considered and coordinated?
- Security Procedures in Place and ready for use?

TESTABLE REQUIREMENT

- A requirement or set of requirements is considered to be testable if an objective and feasible test can be designed to determine whether each requirement has been met. (Mil-Std 498)
- Start with Testable Requirements

RECOMMENDATIONS

- Start Test Planning Early
- Optimize Testing to Reduce Risk
- Testing Traceable to Requirements
- Tailorable if provides adequate information
- Testing should be part of Integrated Product Team (IPT)